

**REMARKS**

This Amendment is filed in response to the Office Action mailed Nov. 22nd, 2005. All objections and rejections are respectfully traversed.

Claims 1-52 are now pending in the case.

Claims 1, 4, 5, 7, and 9-12 have been amended to better claim the invention.

Claim 8 has been cancelled without prejudice.

Claims 37-45 have been added.

***Request for Interview***

The Applicant respectfully requests a telephonic interview at such time as the Examiner is ready to consider this Office Action. The Applicant hopes such contact may advance the prosecution of the case. The Applicant's Attorney may be contacted at 617-951-2500.

***Claim Objections***

At page 2 of the Office Action, claim 8 was objected to as containing informalities. Claim 8 has been cancelled without prejudice and accordingly this objection is believed to be moot.

***Claim Rejections – 35 U.S.C. § 102***

At pages 2-5 of the Office Action, claims 5, 6, 8-10, 13-16, 21-24, 29, 30 and 35 were rejected under 35 U.S.C. §102(b) as obvious in view of Morita et al., U.S. Patent No. 5,872,906, issued on Feb. 16<sup>th</sup>, 1999 (hereinafter Morita).

The Applicant's claim 5, representative in part of the other rejected claims, sets forth:

5. A method of verifying that a plurality of disks in a volume are optimally configured comprising the steps of:
  - identifying all of the disks in the volume;
  - obtaining disk characteristics, respectfully, from all of the disks in the volume;
  - comparing the disk characteristics with a set of policies and characteristics of spare disks; and

*alerting an administrator if a more optimal configuration of which disks are used in the volume and which disks are spare is possible.*

Morita discloses a technique for selection of disks in a disk array attached to a host computer. Spare disks are selected based upon their parity rank and parity port in the disk array, in order to preserve the parity groups in the disk array. More specifically, at Morita states at col. 4, lines 30-36:

By selecting most preferentially the spare disk unit existing in the ports other than the parity group to which the failure disk unit belongs as an alternative destination and by executing the data reconstructing process, it is possible to certainly prevent that two or more disk units included in the same parity group are allocated to the same port after the data was reconstructed.

The Applicant respectfully urges that Morita is silent concerning the Applicant's claimed "*alerting an administrator if a more optimal configuration of which disks are used in the volume and which disks are spare is possible.*"

Morita simply selects a most preferred spare disk in a disk array. Morita apparently does not address the possibility that, subsequently, the array may be reconfigured and the previously most preferred disk may no longer be the currently most preferred disk. In such situations, reconfiguration of the disks into a more optimal configuration is often desirable. To address this shortcoming, the Applicant novelly claims *alerting...if a more optimal configuration of which disks are used in the volume and which disks are spare is possible.* In this way the shortcomings of the prior art, such as Morita, are overcome.

Accordingly, the Applicant respectfully urges that Morita is legally insufficient to anticipate the present claims under 35 U.S.C. §102 because of the absence of the Applicant's claimed novel "*alerting an administrator if a more optimal configuration of which disks are used in the volume and which disks are spare is possible.*"

***Claim Rejections - 35 U.S.C. §103***

At pages 6-7 of the Office Action, claims 17-19, 25-27 and 31-33 were rejected under 35 U.S.C. §103(a) as obvious in view Morita.

The Applicant notes that these claims are dependent claims that depend from independent claims that are believed to be allowable. Accordingly the dependent claims are also believed to be allowable.

At pages 8-11 of the Office Action, claims 1-4, 7, 11 an 12 were rejected under 35 U.S.C. §103(a) as obvious over Morita in view of Kleiman et al., U.S. Patent No. 6,317,844, Issued on Nov. 13<sup>th</sup>, 2001 (hereinafter Kleiman)

The Applicant's claim 1, representative in part of the other rejected claims, sets forth:

1. A method for a particular file server to allocate a spare disk to replace a failed disk in a network storage system comprising the steps of:
  - identifying a set of spare disks, the set of spare disks attached to a plurality of file servers of the network storage system;
  - choosing a best spare disk of the set of spare disks the best spare disk attached to any of the file servers of the plurality of file servers, *the best spare disk chosen according to a plurality of user-selectable policies*; and
  - claiming ownership of the best spare disk.

Morita was described above.

Kleiman discloses a file server storage arrangement where,

A file server system 100 includes a pair of file servers 110, both coupled to a common set of mass storage devices 120. A first one of the file servers 10 is coupled to a first I/O bus 130 for controlling a first selected subset of the mass storage devices 120. Similarly, a second one of the file servers 110 is coupled to a second I/O bus 130 for controlling a second selected subset of the mass storage devices 120.

*See col. 2, lines 59-65*

The Applicant respectfully urges that both Morita and Kleiman are silent concerning the Applicant's claimed "***the best spare disk chosen according to a plurality of user-selectable policies.***"

Neither Morita nor Kleiman suggest ***a plurality of user-selectable policies*** for selecting spare disks. Morita, in sharp contrast discloses a rigid priority order system based upon the parity rank and port assignment in a disk array. According to Morita's teaching, a table is constructed indicating a "priority order" for the use of spare disks in the event of failure of particular disks. *See table in Fig. 14 and text at col. line 53 to col. 12, lines 24.* While a user may possibly be able to turn Morita's process on or off, Morita in no way suggests a user may select from a plurality of user selectable policies, and thereby customize the way spare disks are selected. The Applicant provides several illustrative examples of user selectable policies at pages 11 and 12 of the Application. Thus while the Applicant teaches ***the best spare disk chosen according to a plurality of user-selectable policies,*** Morita teaches a specific fixed disk selection technique.

Similarly, Kleiman does not suggest this claimed feature. Indeed, Kleiman does not even mention spare disks, much less ***use-selectable policies*** for their selection.

Accordingly, the Applicant respectfully urges the combination of Morita and Kleiman is legally insufficient to make obvious the present claims under 35 U.S.C. §103 because of the absence of the Applicant's claimed novel "***the best spare disk chosen according to a plurality of user-selectable policies.***"

PATENTS  
112056-0020  
P01-1041

In the event that the Examiner deems personal contact desirable in disposition of this case, the Examiner is encouraged to call the undersigned attorney at (617) 951-2500.

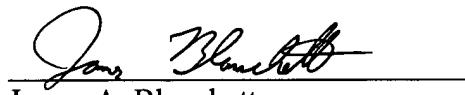
All independent claims are believed to be in condition for allowance.

All dependent claims are believed to be dependent from allowable independent claims.

The Applicant respectfully solicits favorable action.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,

  
James A. Blanchette  
Reg. No. 51,477  
CESARI AND MCKENNA, LLP  
88 Black Falcon Avenue  
Boston, MA 02210-2414  
(617) 951-2500